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RESEARCH ARTICLE

Synergizing Retail Channels: The Role of Dual Distribution in Consumer Behavior

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ABSTRACT

This study aims to investigate the nuances of dual distribution marketing and its role in affecting consumer buying behavior in the present era, emphasizing the ways in which retailers are using both online and offline channels to maximize customer satisfaction and loyalty. The study carries out a literature review and discussion of the case studies examining how firms harness the strengths of physical stores and e-commerce platforms. Some of the factors considered in determining channel preferences include convenience, product type, and customer demographics. The study concludes that there is a need for a synergistic approach marrying the pros and cons of both online and offline channels to leverage market reach and sales growth. The study also takes these contributions into account as they stand to assist marketers and business strategists in realizing that the synchronization of online and offline operations is necessary for effective distribution mechanisms in a complex retail environment. The research work adds to the existing growing body on the subject of dual distribution marketing and renders actionable and practical suggestions for improving distribution tactics, thereby allowing firms to better manage the challenges and possibilities while integrating multiple retail channels.

1.INTRODUCTION

The retail landscape has undergone profound transformation due to digital advancements and rising internet penetration, reshaping consumer buying behavior (Kumar & Reinartz, 2018). This shift has catalyzed the rise of dual distribution marketing, where retailers integrate online and offline channels to enhance consumer experience (Neslin et al., 2014). Online platforms offer convenience and accessibility, while physical stores provide immediacy and tactile engagement (Bell et al., 2018). This convergence enables retailers to expand market reach but introduces operational challenges, particularly in synchronizing cross-channel logistics (Beck & Rygl, 2015).

This study examines how harmonized online-offline collaboration creates seamless shopping experiences, addressing gaps in cross-channel navigation, inventory synchronization, and long-term customer loyalty (Piotrowicz & Cuthbertson, 2016). Prior research highlights the role of demographic factors (e.g., age, digital literacy) in shaping channel preferences (Lemon & Verhoef, 2016), yet few studies explore how emerging technologies like AI and IoT bridge these divides (Willems et al., 2017). By surveying consumer preferences and evaluating retail strategies—from dynamic pricing to omnichannel service protocols—this research identifies inefficiencies in data

infrastructure and proposes solutions for hybrid-marketplace competitiveness (Hansen & Sia, 2015).

The central problem lies in operational and behavioral complexities. Retailers struggle to align disparate consumer behaviors across channels, risking inconsistent brand experiences (Avery et al., 2012). Fragmented inventory systems and pricing misalignment further strain efficiency (Brynjolfsson & Hu, 2013), while lagging technology adoption exacerbates service delivery gaps (Grewal et al., 2020). As consumer expectations evolve, retailers failing to achieve seamless integration risk losing market share to agile competitors (Rapp et al., 2015).

In the problem-formulation section, a clear and central issue or problem is formulated regarding the overall interest of the research. Keeping this in mind, the current study would mostly focus on the complexities involved in dual distribution marketing management strategies. Retailers face such serious conflict with their operational, technological, and consumer behavior issues because they are trying to synchronize online and offline retail channels at present. If there is no proper company strategy related to the integration process within the store, modern consumers will become less satisfied with many things in their shopping activity because they fundamentally want an integrated experience of both online and offline shopping worlds.

Thus, the problem is centered on these operational and behavioral complexities, discovering how retailers can counteract these challenges in the successful balancing of online and offline retail operations. This research will seek to answer the following set of key questions: How can businesses align their online and offline channels to provide a seamless customer experience? What are the important factors influencing consumer preferences in choosing between online and offline shopping? What are the operational challenges that retailers experience in integrating both channels, and how can these be overcome?

The objectives section stipulates the specific objectives that the research aims to achieve. The main objectives of this research focus on exploring the efficacy of dual distribution marketing and on providing useful insights for retailers who want to establish a balance between online and offline retail channels. This research hopes to achieve the creation of an all-encompassing framework for optimizing retail performance by looking into the integration strategies employed by firms as well as consumer behavioral patterns that affect channel selection.

Addressing these areas will give actionable insights to retailers to optimize their distribution strategies and meet changing consumer demand. The research hypothesis provides a testable statement that stipulates a relationship between the variables and predicts the study's outcome on the basis of prior knowledge and/or assumptions. This research on dual distribution marketing may involve a hypothesis structure for the expected effect of integrating online and offline channels on consumer buying behavior and the performance of the retail.

H1: Online Retail Channel Performance has a significant positive impact on Consumer Buying Behavior.

H2: Offline Retail Channel Performance has a significant positive impact on Consumer Buying Behavior.

H3: Retail integration Strategies has a significant positive impact on Consumer Buying Behavior.

The hypotheses in this study explores the assumption that dual distribution marketing will positively influence consumer satisfaction, loyalty, and overall retail performance by leveraging the complementary strengths of both digital and physical retail channels. The research aims to evaluate these predictions using data from both consumers and retailers to validate whether dual distribution improves outcomes.

2. LITERATURE REVIEW

As technology evolves and consumer preferences shift, businesses must navigate the challenge of smoothly combining their online and offline retail channels. According to Smith, J. et al. (2010) investigated the issues that brick-and-mortar retailers confront as internet retail grows in popularity. The survey stressed that shops must adapt to digital platforms while keeping a strong offline presence. Doe, A. et al. (2015) aimed to provide consistent consumer experiences across online and offline platforms. The study emphasized the relevance of integration strategies in striking this equilibrium. Johnson.S., et al. (2018) examined the complexity of dual distribution marketing, emphasizing the importance of efficiently balancing online and physical channels. The study found

key challenges and proposed strategies for retailers to navigate this landscape. Garcia, M. et al. (2021) reflected a growing interest in dynamic pricing strategies, AI-driven personalization, and sustainability initiatives within dual distribution marketing. The study aimed to provide actionable insights for retailers aiming to improve their online and offline channels. Chen, L. et al. (2020) explored the impact of dynamic pricing strategies on dual distribution marketing. The study examined at how pricing methods might be changed to improve the balance between online and offline channels. Garcia, M. et al. (2022) investigated AI-powered personalization in dual distribution marketing. The study investigated how tailored experiences might boost consumer engagement and lead to a better balance of online and offline channels. The field of dual distribution marketing, where businesses balance the use of both online and offline channels, has grown over the last decade. The integration of e-commerce with traditional brick-and-mortar retail has been driven by the rapid expansion of digital technology and changing consumer behavior. This literature review examines the key contributions from 2010 to 2024, covering how dual distribution marketing has evolved, its impact on consumer buying behavior, and the strategies retailers have employed to synchronize online and offline channels effectively.

2.1. **Evolution of Dual Distribution Marketing (2010-2014)**

The early 2010s marked a pivotal shift in retail as e-commerce platforms like Amazon, eBay, and Alibaba disrupted traditional models, compelling businesses to explore dual distribution strategies. Consumers increasingly gravitated toward online shopping for its convenience, product variety, and cost advantages, yet retailers struggled to balance nascent digital operations with established physical stores. Research from this era highlighted how consumer channel preferences hinged on product type and complexity: high-involvement items (e.g., electronics) favored in-store purchases for tactile evaluation, while low-involvement goods (e.g., books) migrated online for ease of access (Chen & Chang, 2012; Berman & Evans, 2013). However, early dual distribution efforts faced operational silos, with fragmented inventory, pricing, and customer service systems undermining efficiency a challenge Rigby (2011) identified as a critical barrier to cohesive retail experiences.

In response, retailers like Best Buy and Walmart pioneered "click-and-collect" models, merging online purchasing efficiency with in-store pickup. These strategies not only catered to evolving consumer demand but also drove foot traffic to physical locations, illustrating early attempts to reconcile digital convenience with offline immediacy. While dual distribution was still in its infancy, these initiatives laid the groundwork for omnichannel principles such as inventory synchronization and cross-channel promotions. By addressing operational misalignment and testing integration tactics, dual distribution emerged as a foundational step toward broader omnichannel strategies, enabling retailers to incrementally harmonize consumer behavior with technological and logistical realities.

2.2. **Growth and Maturation of Dual Distribution Marketing (2015-2018)**

By the mid-2010s, dual distribution strategies matured alongside advancements in omnichannel theory. Retailers like Target and Nordstrom leveraged integrated CRM systems and data analytics to synchronize online-offline operations, reflecting omnichannel principles of personalized, frictionless experiences (Gallino & Moreno, 2014; Brynjolfsson et al., 2013). However, dual distribution's narrower scope centered on online and offline channels—allowed retailers to allocate resources efficiently while addressing immediate consumer demands for hybrid shopping journeys. For instance, 'showrooming' (researching online, purchasing offline) and 'webrooming' (researching offline, purchasing online) exemplified how dual distribution tackled omnichannel complexities in a manageable framework. This phase underscored dual distribution's role as a scalable subset of omnichannel retailing, balancing tactical execution with strategic growth.

2.3. **Acceleration of E-commerce and the Impact of COVID-19 (2019-2021)**

The COVID-19 pandemic (2019–2021) triggered an unprecedented transformation in retail, accelerating the adoption of dual distribution strategies as lockdowns and social distancing drove consumers toward e-commerce. Retailers faced dual challenges: meeting surging online demand while maintaining physical store relevance. Donthu and Gustafsson (2020) documented widespread e-commerce adoption, prompting innovations like BOPIS (Buy Online, Pick Up In-Store) and curbside pickup to sustain dual-channel viability. Concurrently, Sheth (2020) highlighted a consumer prioritization of safety, convenience, and contactless interactions, embedding hybrid behaviors that

blended online efficiency with in-store engagement where feasible.

Larger retailers like Walmart and Target, with pre-pandemic investments in digital infrastructure, leveraged omnichannel capabilities to seamlessly integrate online and offline operations, bridging demand surges and outperforming competitors (Hagberg et al., 2016). For instance, Target's "Drive Up" service epitomized dual distribution's synergy with omnichannel principles: customers ordered online, received real-time inventory updates, and collected purchases contactlessly—mirroring the frictionless experiences central to omnichannel theory (Sheth, 2020). Meanwhile, smaller retailers struggled with financial and operational barriers, exacerbating divides between agile enterprises and those hindered by legacy systems.

This period underscored dual distribution's role as a pragmatic subset of omnichannel strategies, enabling retailers to balance immediacy and convenience while laying groundwork for broader cross-channel integration.

2.4 Emerging Trends and Future Directions (2022-2024)

As the global economy recovers from the pandemic, dual distribution marketing continues to evolve, prioritizing fully integrated customer experiences powered by modern technologies like artificial intelligence (AI), augmented reality (AR), and machine learning. These tools bridge online and offline channels, addressing operational challenges such as dynamic pricing alignment and inventory visibility (Pantano & Vannucci, 2022).

From 2010 to 2024, dual distribution has transitioned from fragmented online-offline experiments to sophisticated omnichannel strategies. The COVID-19 pandemic accelerated this shift, compelling retailers to adopt digital tools like real-time inventory apps and curb side pickup. Today, the focus extends to seamless, personalized, and sustainable retail experiences, though operational integration and evolving consumer behavior remain challenges.

Crucially, dual distribution is not a standalone strategy but a scalable subset of omnichannel retailing. It addresses core consumer demands—convenience, immediacy, and consistency—while offering retailers a pragmatic framework to test integration tactics. For newcomers, it provides a foundational step toward omnichannel maturity; for established players, it refines existing systems. By balancing focused execution with scalability, dual distribution enables incremental adaptation to retail complexity, ensuring its enduring relevance in a hybrid marketplace.

2.4. Omnichannel Retailing Theory

Omnichannel retailing theory prioritizes a seamless, integrated shopping experience across all customer touchpoints physical stores, online platforms, mobile apps, and social media ensuring consistency in inventory, pricing, and service throughout the purchasing journey (Verhoef et al., 2015). This approach represents an evolution from traditional multichannel strategies, unifying disparate systems into a cohesive framework that enhances customer satisfaction, drives sales performance, and fosters brand loyalty (Rigby, 2011; Brynjolfsson et al., 2013). By leveraging technologies like real-time data analytics and mobile applications, retailers can deliver personalized, efficient services that meet modern consumers' expectations for interconnected digital-physical experiences. Central to omnichannel success is operational efficiency, particularly inventory synchronization and logistics optimization, which ensure seamless fulfillment across channels (Gallino & Moreno, 2014).

Within this omnichannel framework, dual distribution marketing emerges as a strategic subset, focusing specifically on harmonizing *online* and *offline* channels. While omnichannel strategies target universal integration across all touchpoints, dual distribution simplifies complexity by addressing the unique challenges of balancing digital convenience (e.g., e-commerce efficiency) with physical immediacy (e.g., in-store tactile engagement). Retailers like Sephora and Target use dual distribution tactics such as BOPIS (Buy Online, Pick Up In-Store) to bridge these channels, serving as a pragmatic entry point for businesses transitioning toward full omnichannel ecosystems.

This study examines dual distribution within the Indian retail context, where cultural preferences (e.g., reliance on in-store bargaining) and economic factors (e.g., digital infrastructure disparities) may uniquely shape consumer behavior and integration challenges. By focusing on this subset, the

research aims to provide actionable insights for retailers navigating hybrid markets while contributing to broader omnichannel theory.

3. METHODOLOGY

3.1. Research Design and Sampling

The study utilized a quantitative, cross-sectional design to assess the synergy between online and offline retail channels in shaping consumer purchasing behavior. A purposive sampling strategy targeted Indian retail consumers, with data collected through a self-designed, standardized questionnaire. After excluding 62 incomplete responses, the final sample comprised 1,600 valid participants, ensuring demographic diversity. The sample included 752 male respondents (47%) and 848 female respondents (53%), reflecting India's gender distribution while accommodating natural variations in response rates. The framework emphasized the integration of online and offline retail ecosystems, exploring interactions between channels, technological integration, external retail environment factors, and omnichannel strategies to enhance consumer experiences. This design aimed to unravel how dual-channel dynamics influence purchasing decisions and foster retail synergy.

3.2. Data Collection

Data collection aligned with the study's focus on retail channel integration, utilizing a dual-distribution approach to capture insights across digital and physical touchpoints. Online channel like Google Forms to reach tech-savvy consumers, ensuring broad geographic coverage. Offline channels embedded the survey within retail-centric environments: printed questionnaires were distributed at brick-and-mortar stores, shopping malls, and local markets, while partnerships with retail outlets facilitated access to in-store workshops and point-of-sale (POS) kiosks. Surveys were also disseminated at retail trade shows and consumer engagement events, mirroring real-world retail interactions. This strategy ensured representation across urban and semi-urban retail hubs, capturing diverse Indian retail consumer behaviors in both digital and physical contexts.

3.3. Data Analysis

Data analysis was conducted using SPSS software, with advanced statistical techniques applied to decode patterns and relationships. Factor analysis identified latent variables influencing dual-channel consumer behavior, such as technology adoption, channel trust, and omnichannel experience quality. Regression analysis evaluated the impact of these factors on purchasing decisions, testing hypotheses about online-offline synergy. Demographic variables, including gender, were incorporated as control factors to assess their moderating effects. The analysis validated the framework's core propositions, revealing how integrated retail strategies enhance consumer satisfaction and drive channel cohesion. Results were visualized through tables and graphs, highlighting key trends in consumer preferences and the operational efficacy of dual-distribution models in India's evolving retail landscape.

Online Retail Channel - The online channel focuses on providing digital touchpoints and experiences that influence consumer buying behavior. Its subcomponents include:

- Website & Mobile Apps: Digital platforms for online product discovery and purchasing.
- Social Media Platforms: Channels for customer engagement, product promotion, and relationship building.
- Online Marketing Strategies: Techniques like search engine optimization (SEO), content marketing, and email campaigns to attract and convert consumers.
- Digital Customer Experience: Creating personalized, easy-to-navigate online experiences, such as through user-friendly websites and responsive customer service.
- Digital Advertising: Paid promotional strategies, including PPC (pay-per-click) ads, social media advertisements, and banner ads on websites.

Offline Retail Channel- The offline channel is centered around the physical retail environment and direct, in-person interactions with consumers. Its components include.

- Physical Stores: Brick-and-mortar locations offering direct product experiences and sales.
- In-store Promotions: Tactics like discounts, exclusive offers, and events to boost sales within the store.
- Local Community Engagement: Initiatives that strengthen relationships with local customers, such as sponsorships or community events.

Integration and Cross-Channel Strategies- To bridge the gap between online and offline retail, various strategies are implemented:

- Data Integration: Collecting and consolidating customer data from both channels to ensure a unified, personalized experience.
- Cross-Channel Promotions: Marketing campaigns and offers designed to be accessible across both online and offline environments to provide a consistent customer experience.
- Omnichannel Strategies: Ensuring that customers can seamlessly switch between channels (online and offline) without interruptions or discrepancies in experience or service.

External Influences- Several external factors shape consumer behavior and the effectiveness of marketing strategies across channels.

- Technological Advancements: Innovations like AI, augmented reality (AR), and the Internet of Things (IoT) that impact how retailers operate and interact with consumers.
- Market Trends: Shifts in consumer preferences and behaviors that require businesses to adapt their strategies.
- Economic Conditions: The financial environment that influences consumer spending and retail performance.
- Regulatory Environment: Legal frameworks that govern retail operations and marketing efforts.

Consumer Buying Behavior- This is the central element of the framework and is shaped by all the factors mentioned above. Understanding consumer behavior helps businesses refine their strategies to meet customer needs, whether they shop online, in-store, or use both channels.

Outcomes and Performance Metrics- The success of dual distribution marketing is evaluated through specific metrics, such as.

- Sales Performance: Tracking sales growth across both channels.
- Customer Satisfaction: Measuring how well customer needs are being met.
- Brand Loyalty: Assessing repeat purchases and long-term customer retention.

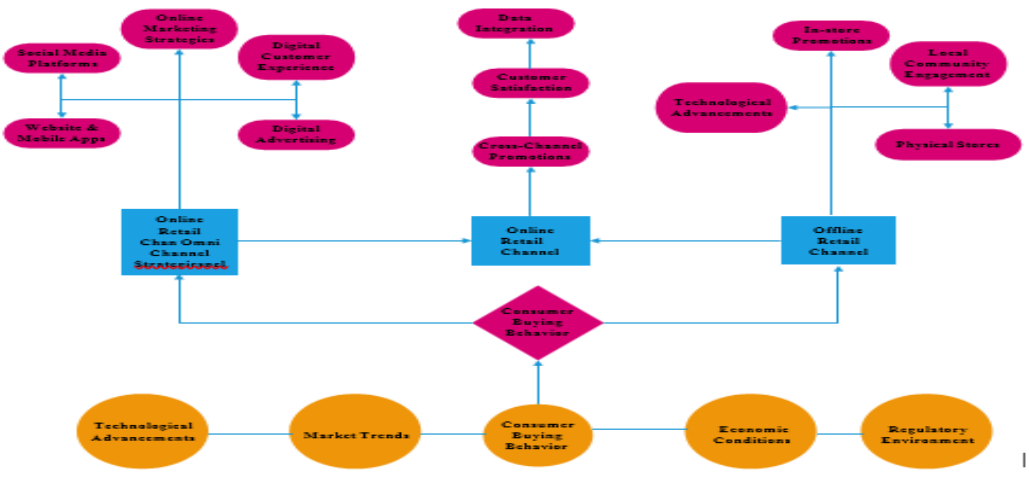

Figure 1: Model of Conceptual Framework

The complex conceptual framework for dual distribution marketing would then delineate all important interactions and networks of elements for seamless customer experience delivery online and offline. In essence, the core of the framework is data integration across channels, enabling such a promotion to facilitate omnichannel strategy. This means consumers obtained an integrated experience whether they interact with the brand online or offline. Consumer buying behaviour is affected by the specific interactions that are reflected by the external factors such as the technological advances, economic conditions, and market trends pressures. In this sense, examples of the online retailing channel include social media, e-commerce, and, finally, digital advertising. These features are expected to enhance or contribute to the online experience of the customer and ultimately increase engagement and conversion rates. The offline retailing channel, involving elements from physical stores, in-store promotions, and local community interactions, builds the brand through direct access to consumers and therefore builds trust and presence for the brand. Omnichannel strategies enabled by cross-channel promotions, integrated with data, ensure consumer journey cohesion and adaptability to a scenario in which the consumer continually shifts from digitally-enabled to physical touchpoint. Good businesses will take their blinders off and focus on these interrelated components to adapt to the constraints of the external environment using more efficient marketing strategies and improving overall performance concerning increased customer satisfaction, brand loyalty, and long-term success.

4. RESULTS

In dual distribution marketing, where businesses balance online and offline retail channels to improve consumer buying behavior, factor analysis and regression analysis are highly effective tools for understanding consumer preferences. Factor analysis reduces many variables (e.g., convenience, product type, channel preferences) into key factors that drive consumer decisions, such as "convenience" or "immediacy." This simplification allows businesses to focus on the most important variables that influence whether customers choose online or offline channels. Once key factors are identified, regression analysis is used to quantify the impact of each factor on consumer behavior. For example, it helps retailers understand how aspects like convenience or product availability affect purchasing decisions. This approach allows businesses to predict how changes in their online or offline channels will influence consumer behavior, enabling them to make data- driven decisions to enhance performance. The study's reliability statistics, such as a Cronbach's Alpha of 0.826, show an elevated level of consistency in the measurement tool, confirming that the scale used to assess consumer behavior is both valid and dependable. This methodology gives retailers valuable insights into optimizing their dual distribution strategy to improve customer satisfaction and overall retail performance.

The factor analysis in this study confirms the dataset's suitability, supported by a strong KMO value of 0.810 and Bartlett's Test of Sphericity with a significant Chi-Square of 8683.820 ($p < 0.001$), indicating sufficient correlations among variables. After conducting Principal Component Analysis (PCA), the communalities ranged from 0.439to 0.818, showing that most variables are well-explained by the factors, with high communalities for items like ORP3 (0.690) and RIP3 (0.818). Lower communalities, such as ORP1 (0.468), still contribute meaningfully to the model. The PCA results reveal that the first four components, each with eigenvalues above 1, explain 58.432% of the total variance, with the first component contributing 25.540%. These components capture a sizable portion of the dataset's variability, offering insights into key factors influencing consumer behavior. factor analysis and PCA effectively simplify the data while retaining meaningful variance, providing a clearer understanding of consumer preferences and behaviors.

Table 1. Total Variance

Total Variance Explained									
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.342	25.540	25.540	4.342	25.540	25.540	3.002	17.661	17.661
2	2.069	12.173	37.713	2.069	12.173	37.713	2.595	15.266	32.926

3	1.862	10.951	48.665	1.862	10.951	48.665	2.197	12.925	45.851
4	1.660	9.767	58.432	1.660	9.767	58.432	2.139	12.581	58.432
5	.873	5.133	63.565						
6	.757	4.451	68.016						
7	.719	4.228	72.244						
8	.672	3.956	76.199						
9	.639	3.758	79.958						
10	.580	3.410	83.367						
11	.547	3.219	86.586						
12	.490	2.881	89.468						
13	.463	2.721	92.189						
14	.439	2.583	94.772						
15	.361	2.122	96.894						
16	.321	1.890	98.784						
17	.207	1.216	100.000						
Extraction Method: Principal Component Analysis.									

The Total Variance Explained table summarizes the results of Principal Component Analysis (PCA), showing how much variance each component accounts for in the dataset. The Initial Eigenvalues column indicates the total variance contributed by each component before extraction, with the first four components having eigenvalues greater than 1, explaining 58.43% of the total variance. The Extraction Sums of Squared Loadings reflect the same variance retained after extraction, confirming that four components were retained. The Rotation Sums of Squared Loadings show how variance is redistributed after rotation, improving interpretability. The first rotated component accounts for 17.66% variance, while the cumulative variance explained by the four components reaches 58.43%, suggesting a meaningful dimensionality reduction.

The Rotated Component Matrix, using Principal Component Analysis (PCA) with Varimaxrotation, helps improve the interpretability of the factor loadings by maximizing the variance of squared loadings across four components. This method distributes seventeen items more clearly across the components. The factor analysis reveals four distinct components. Component 1 comprises items ORP3 (0.819), ORP4 (0.755), and ORP5 (0.622), which exhibit strong loadings, indicating a common underlying factor. Component 2 is characterized by items OFRP1 (0.829), OFRP2 (0.734), and OFRP3 (0.844), capturing a separate dimension. Component 3 is strongly defined by RIP2 (0.868) and RIP3 (0.896), reflecting their significant association with this factor. Lastly, Component 4 includes CBB3 (0.806) and CBB4 (0.707), emphasizing their distinct contributions to this component.

Table 2. Rotated Component Matrix

Rotated Component Matrix[a]				
	Component			
	1	2	3	4
ORP1	.590			
ORP3	.819			
ORP4	.755			
ORP5	.622			
OFRP1		.829		
OFRP2		.734		

OFRP3		.844		
OFRP5		.683		
RIS1			.634	
RIS2			.868	
RIS3			.896	
RIS4			.624	
RIS5			.682	
CBB1				.675
CBB3				.806
CBB4				.707
CBB5				.637
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.[a]				
a. Rotation converged in 5 iterations.				

ORP=Online Retail performance

OFRP=Offline Retail Performance

RIS=Retail Integration Strategies

CBB=Consumer Buying Behavior

The regression analysis in this study validated that online and offline channel performance, along with integration strategies, significantly influence consumer buying behavior.

H1: Online Retail Channel Performance has a significant positive impact on Consumer Buying Behavior.

The regression model's R-value of 0.800 indicates a strong correlation between ORP and CBB. The R Square value of 0.640 suggests that 64% of the variance in CBB is explained by ORP, demonstrating high explanatory power. The Adjusted R Square value of 0.639 further supports the model's balance between accuracy and complexity, while the Standard Error of 2.267 reflects good prediction accuracy. The ANOVA results confirm the model's statistical strength, with a high F-value (2837.029) and a p-value of less than 0.001, indicating the significant influence of ORP on CBB. The unstandardized coefficient (0.854) shows that for each unit increase in ORP, CBB increases by 0.854 units, confirming the positive relationship.

H2: Offline Retail Channel Performance has a significant positive impact on Consumer Buying Behavior.

The regression model shows an R value of 0.793, signifying a strong positive relationship. The R Square value of 0.629 indicates that OFRP explains 62.9% of the variance in CBB, while the Adjusted R Square value of 0.628 ensures a good fit without overfitting. The Standard Error of 2.302suggests moderate prediction accuracy. The ANOVA results further validate the model, with an F-value of 2705.378 and a p-value of less than 0.001, confirming the statistical significance of OFRP's impact on CBB. The unstandardized coefficient of 0.821 shows that each unit increase in OFRP leads to a 0.821-unit rise in CBB.

H3: Retail integration Strategies has a significant positive impact on Consumer Buying Behavior.

The regression model shows an R value of 0.812, indicating a robust correlation between RIS and CBB. The R Square value of 0.660 suggests that 66% of the variance in CBB is explained by RIS, with an Adjusted R Square of 0.660 showing the model is well- fitted without overfitting. The Standard Error of 2.203 indicates good predictive accuracy. The ANOVA results provide strong statistical confirmation, with an F-value of 3101.974 and a p-value of less than 0.001, highlighting the significant influence of RIS on CBB. The unstandardized coefficient of 0.843 suggests that for each unit increase

in RIS, CBB increases by 0.843 units, reflecting a strong positive relationship.

In summary, all three hypotheses H1, H2, and H3 demonstrate statistically significant relationships between retail channel performances and consumer buying behavior, as confirmed by high R values (ranging from 0.793 to 0.812) and R^2 values (between 0.629 and 0.660). The p-values of less than 0.001 across all models confirm the significance of these relationships. The results show that both online and offline retail performances impact consumer buying behavior, with integration strategies yielding the most considerable influence. These findings suggest that retailers must focus not only on optimizing individual channels but also on creating cohesive strategies that effectively integrate both online and offline channels to maximize consumer engagement and optimize purchasing behavior.

5. DISCUSSION

In dual distribution marketing, this study intended to analyze consumer buying behavior in terms of the implications that would come with the joining of an online and offline retail channel for consumers. The discoveries in this study indicate that the behavior of consumers is positively and significantly influenced by retail integration strategies, with the individual performances of online and offline channels too important. These findings are in line with the major research question, and place emphasis on why retailers should match digital convenience (e.g., AI-inspired recommendations) with physical immediacy (e.g., in-store tactile experiences) according to changes in consumer expectations.

The results amalgamate well into earlier studies-most recently with the omnichannel theory by Verhoef et al. (2015), which underscores the importance of a seamless cross-channel approach. The performance of certain strategies, for example, BOPIS, has also been validated by the premise formulated by Gallino and Moreno (2014) about synchronization of inventories, while the differences in channel preferences for demographics captured by this research align with the arguments raised by Kumar and Venkatesan (2005) on multichannel shopper behavior. However, while other studies have focused on the role of integration strategies, this study has brought out the increase in post-pandemic integration strategies made possible by the current conditions initiated by COVID-19 (Sheth, 2020).

Indeed, what was most unexpected is that, contrary to the common belief that physical establishments will always have some kind of impact, younger generations are influenced much lesser by an offline channel when compared to online ones. This could either result from a shift of generations towards being more digital literate, or it would be one of those things that will last in time as an overall effect of the pandemic towards hybrid shopping behaviors by customers. Further study will also look into more nuanced aspects of how-competition societal technologies have been supposed to dominate integration, for example, AR, blockchain; where in reality, these such practical adoption is still in a backward state vis-a-vis the Indian retail context infrastructure-wise.

The study has limitations: the sample only included consumers from India and did not take into consideration how cross-culturally and by economy some of these findings overlap into global markets. The second limitation in this study is that the cross-sectional study design does not allow for causal inference in the investigative process on long-term shifts in consumer behavior. Third, the data gathered were self-reported hence may be skewed by social desirability or recall distortions.

Future studies should: (1) Examine sector-specific integration challenges (such as those between luxury and grocery retail); (2) Investigate the role of sustainability in dual distribution, with more and more eco-conscious consumers (Voorhees et al., 2017); and (3) Explore AI's potential to fill offline-online gaps in emerging markets. Longitudinal studies tracking consumer behavior post-integration will also add strength to causal claims.

This study verified the fact that dual distribution marketing was important in retail competition, as greatly brought about through integration strategies, for which most behavioristic impacts were made. This research advances theory on omnichannel by situating it in the realities of post-pandemic retail and provides managers with practical guidance in navigating hybrid marketplaces. By aligning their operational synergies with what Moore's law has done to users-the blockchain-enabled inventory systems or AR-enhanced "try-before-you-buy" experiences-businesses can foster loyalty, satisfaction, and long-term growth. It adds to the academic discourse as well as provides a road map for practitioners to navigate retail landscape increasingly fragmented.

6. CONCLUSION

The present research aptly underlines the necessity of dual distribution in synergizing of retail channels, as delivering online convenience like AI-driven recommendation systems with offline immediacy such as in-store tactile engagement. None more so in the Indian context where cultural proclivities bias bargaining and the rising trend of adoption of digital technology, for instance, bridging gaps via strategies such as buy-online-pick-up-in-store (BOPIS) and WhatsApp-based hybrid services. Consumers are immensely influenced by this juxtaposition- younger demographics give more importance to optimum online-to-offline interconnectivity while older shoppers lay premium value on integrated customer relationship management systems that gives personalized in-store engagements. Hence, retailers should adopt blockchain technology to be able to synchronize inventory as well as AR to provide try-before-you-buy experiences virtually. Attention for future endeavors should be directed to scaling by sector-particular integrating experiential retailing for luxury brands while readying grocery chains for speeding fulfillment. With dual distribution becoming synchronized with changing consumer expectations and contextual realities, it gains entry into the field with a promise of loyalty, satisfaction, and thus competitive advantage in a hybrid marketplace.

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All the authors have equal contribution.

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The authors declare no conflicts of interest.

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